UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,717	08/13/2003	Han-Chou Liu	ADTP0051USA	1716

27765 7590 10/05/2005

NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION
P.O. BOX 506
MERRIFIELD, VA 22116

EXAMINER	
KIM, RICHARD H	

ART UNIT	PAPER NUMBER
2871	

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/604,717	LIU	
	Examiner	Art Unit	
	Richard H. Kim	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 September 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2 and 4-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2 and 4-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-5 and 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moon et al. (US 2003/0086255 A1) in view of Hillstrom (US 5,983,543).

Referring to claims 1, 2, Moon et al. discloses a device comprising a plurality of cold cathode fluorescent lamps installed within a housing (631); a reflection plate installed under the plurality of lamps in the housing (paragraph 40). However, the reference does not disclose a metal diffusion film having a plurality of apertures thereon in-stalled above the lamps for diffusing light generated by the plurality of lamps.

Hillstrom discloses a diffusion film having a plurality of apertures thereon in-stalled above the lamps for diffusing light generated by the plurality of lamps (col. 12, lines 1-6).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a diffusion film having a plurality of apertures thereon in-stalled above the lamps for diffusing light generated by the plurality of lamps since one would be motivated "to even out light distribution" (col. 12, lines 1-3). Furthermore, metal is well known in the art to be a durable material resistant to shattering.

Referring to claim 4, Moon et al. and Hillstrom disclose the device previously recited, but fails to disclose that the diffusion film is of a thickness of less than .5 mm.

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the diffusion film to be less than .5 mm since such a limitation is a result effective variable. As is well known in the art, it is desirable to produce a thin display. Therefore, it would be obvious to make it thinner than .5 mm in order to produce a thin liquid crystal display.

Referring to claim 5, Moon et al further discloses a diffusion sheet (paragraph 31).

Referring to claims 10-15, Moon et al. and Hillstrom disclose the device previously. However, Moon et al. fails to disclose that the apertures having different diameters/dimensions, wherein the diameter/dimension of the apertures directly above the lamps is smaller than the diameter/dimension of the apertures not directly above the lamps; or that the diameter/dimensions of the apertures are the same, wherein the diffusion film has a highest aperture packing density at an area directly over the lamps, wherein the apertures are circular, rectangular or any other shape, wherein the diffusion film is a metal film and the apertures are columns and rows of through slots arranged on the metal film.

Hillstrom discloses that the apertures are spaced to even out the light distribution (col. 12, lines 1-5).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ apertures having different diameters/dimensions, wherein the diameter/dimension of the apertures directly above the lamps is smaller than the diameter/dimension of the apertures not directly above the lamps; or that the diameter/dimensions of the apertures are the same, wherein the diffusion film has a highest aperture packing density at an area directly over the lamps, wherein the apertures are circular,

rectangular or any other shape, wherein the diffusion film is a metal film and the apertures are columns and rows of through slots arranged on the metal film since it is within the realm of an artisan having ordinary skill in the art to arrange or size the apertures in a pattern that would optimally even out the light distribution. Such parameters (size, shape) are result effective variables, and since Hillstrom discloses that the apertures are spaced to even out the light distribution, arranging the apertures to achieve optimum light distribution would have been obvious.

3. Claims 6-9 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moon et al. and Hillstrom in view of Woo (US 6,447,121 B1).

Referring to claims 6-9, 16, 19 and 20, Moon et al. and Hillstrom et al. disclose the device previously recited, but fails to disclose at least one metal heat-dissipating piece disposed at a periphery of the diffusion film, further comprising a heat exchange means connected with the heat-dissipating piece, wherein the heat exchange means is a heat pipe.

Woo discloses at least one metal heat-dissipating piece disposed at a periphery of the diffusion film, further comprising a heat exchange means connected with the heat-dissipating piece, wherein the heat exchange means is a heat pipe (col. 3, lines 45-52).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ at least one metal heat-dissipating piece disposed at a periphery of the diffusion film, further comprising a heat exchange means connected with the heat-dissipating piece, wherein the heat exchange means is a heat pipe since one would be motivated to dissipate heat from the display device (abstract).

Referring to claim 17, Moon et al., Hillstrom and Woo disclose the device previously recited, but fails to disclose that the diffusion film is of a thickness of less than .5 mm.

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the diffusion film to be less than .5 mm since such a limitation is a result effective variable. As is well known in the art, it is desirable to produce a thin display. Therefore, it would be obvious to make it thinner than .5 mm in order to produce a thin liquid crystal display.

Referring to claim 18, Moon et al further discloses a diffusion sheet (paragraph 31).

Response to Arguments

4. Applicant's arguments filed 9/16/05 have been fully considered but they are not persuasive.

5. In response to Applicant's argument that Hillstrom does not teach or suggest the use of a metal diffusion film and the metal diffusion film is disposed above a plurality of lamps to diffuse light of the plural lamps, Examiner asserts that Hillstrom was incorporated in order to provide of the missing elements in Moon et al., namely the diffusion film. Moon et al. discloses a plurality of lamps (paragraph 40). Therefore, even though Hillstrom uses a single point light source, since Moon et al. discloses a plurality of lamps, the rejection is proper.

6. Applicant's arguments with respect to claims 6-9 and 16-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard H. Kim whose telephone number is (571)272-2294. The examiner can normally be reached on 9:00-6:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on (571)272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Richard H Kim
Examiner
Art Unit 2871

RHK

ANDREW SCHECHTER
PRIMARY EXAMINER